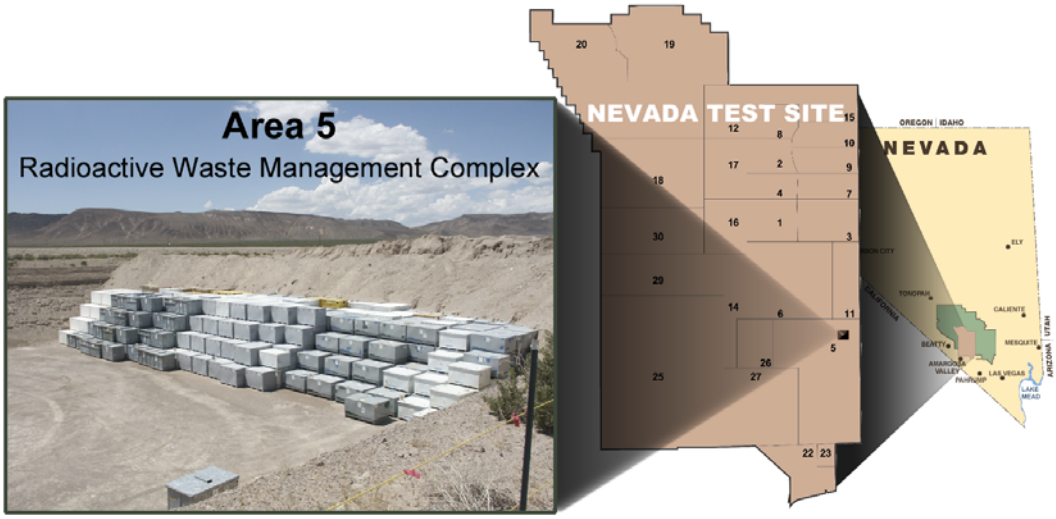
Waste Management

Waste Management

. . .at the Nevada Test Site

The Nevada Test Site plays a pivotal role in cleaning up nuclear weapons sites by providing essential waste management and disposal capabilities required to fulfill the U.S. Department of Energy's (DOE) Environmental Management mission. As one of the two designated national disposal facilities, the Nevada Test Site currently accepts low-level and mixed low-level radioactive waste from approved DOE and defense industry sites across the United States.

In addition to the low-level and mixed low-level waste currently disposed at the Nevada Test Site Area 5 Radioactive Waste Management Complex, the DOE National Nuclear Security Administration Nevada Site Office also manages transuranic and hazardous waste. This state-of-the-art complex provides clean, safe, and technologically advanced disposal cells and temporary storage areas which operate in accordance with federal, state, and local regulations.



Low-Level Waste

Much of the radioactive waste managed at the Nevada Test Site is low-level waste. Historically, these wastes resulted from nuclear weapons production and testing. More recently, low-level waste has been generated as part of cleanup activities at sites throughout the country and typically consists of debris, trash, soil, equipment, tools, and discarded personal protective clothing.

Low-level waste is generally defined not by what it *is*…but rather by what it is *not*. Radioactive waste is considered low-level if it cannot be classified as high-level, transuranic, spent nuclear fuel, or by-product materials such as uranium mill tailings. Shielding provided by low-level waste packaging and the relatively low total radioactivity of most low-level waste packages ensures that workers may generally handle this waste without any special equipment or clothing.

It is important to note that prior to waste acceptance, generators must undergo a rigorous certification and approval process conducted by Nevada Site Office Radioactive Waste Acceptance Program personnel.

Mixed Low-Level Waste

Mixed low-level waste is a combination of low-level and hazardous waste. Examples of hazardous waste includes substances such as ethyl alcohol, Freon, and various metals. Due to its hazardous component, which is governed by the *Resource Conservation and Recovery Act (RCRA)*, mixed low-level waste must be handled and disposed separately from low-level waste.

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The State of Nevada Division of Environmental Protection renewed the Nevada Test Site's RCRA operating permit in December 2005. Under the conditions of this permit, no more than 20,000 cubic meters of mixed low-level waste can be accepted for disposal and the disposal cell must close within five years, whichever comes first.

As with low-level waste, generators must demonstrate compliance with the stringent Nevada Test Site Waste Acceptance Criteria before any mixed low-level waste is accepted for disposal. In order to exhibit compliance, generators must undergo an inspection of the waste stream to include documentation and onsite verification performed by Radioactive Waste Acceptance Program personnel.

Hazardous Waste . . .

Non-radioactive hazardous waste which is generated by support activities, like vehicle or building maintenance, is also managed at the Nevada Test Site. This material is temporarily placed in a RCRA-permitted storage unit at the Area 5 RWMS until it is shipped off-site to a licensed commercial disposal facility.

Transuranic Waste

Another type of waste managed at the Nevada Test Site is called transuranic waste. Waste is identified as transuranic if it contains material contaminated with elements that have an atomic number greater than uranium (92), hence the name "trans" or "beyond" uranium. Transuranic waste is further defined as waste that contains more than 100 nanocuries of alpha-emitting isotopes per gram, with half-lives greater than 20 years (transuranic waste is not spent nuclear fuel or high-level waste).

Between January 2004 and November 2005, 1,860 drums of transuranic waste were shipped to the Waste Isolation Pilot Plant (WIPP) in Carlsbad, New Mexico for permanent disposal. The transuranic waste remaining at the Nevada Test Site will undergo additional characterization, size reduction, and repackaging before it is shipped to WIPP for disposal.

Transportation

Transportation of all waste to and from the Nevada Test Site is strictly monitored. Drivers complete routing reports for each radioactive waste shipment that arrives at the Nevada Test Site. Information from these reports, such as the number of shipments and routes taken, is summarized quarterly and is available on-line at http://www.nv.doe.gov. Information on DOE's National Transportation Program can be found at http://www.ntp.doe.gov.

To learn more about the integral role Waste Management plays in the overall Environmental Management mission and for additional details on the projects listed here, visit http://www.nv.doe.gov.

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DOE/NV--540 REV 2
February 2006